

Disaster Simulation Games

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Major Volcanoes of Indonesia

(with eruptions since 1900 A. D.)



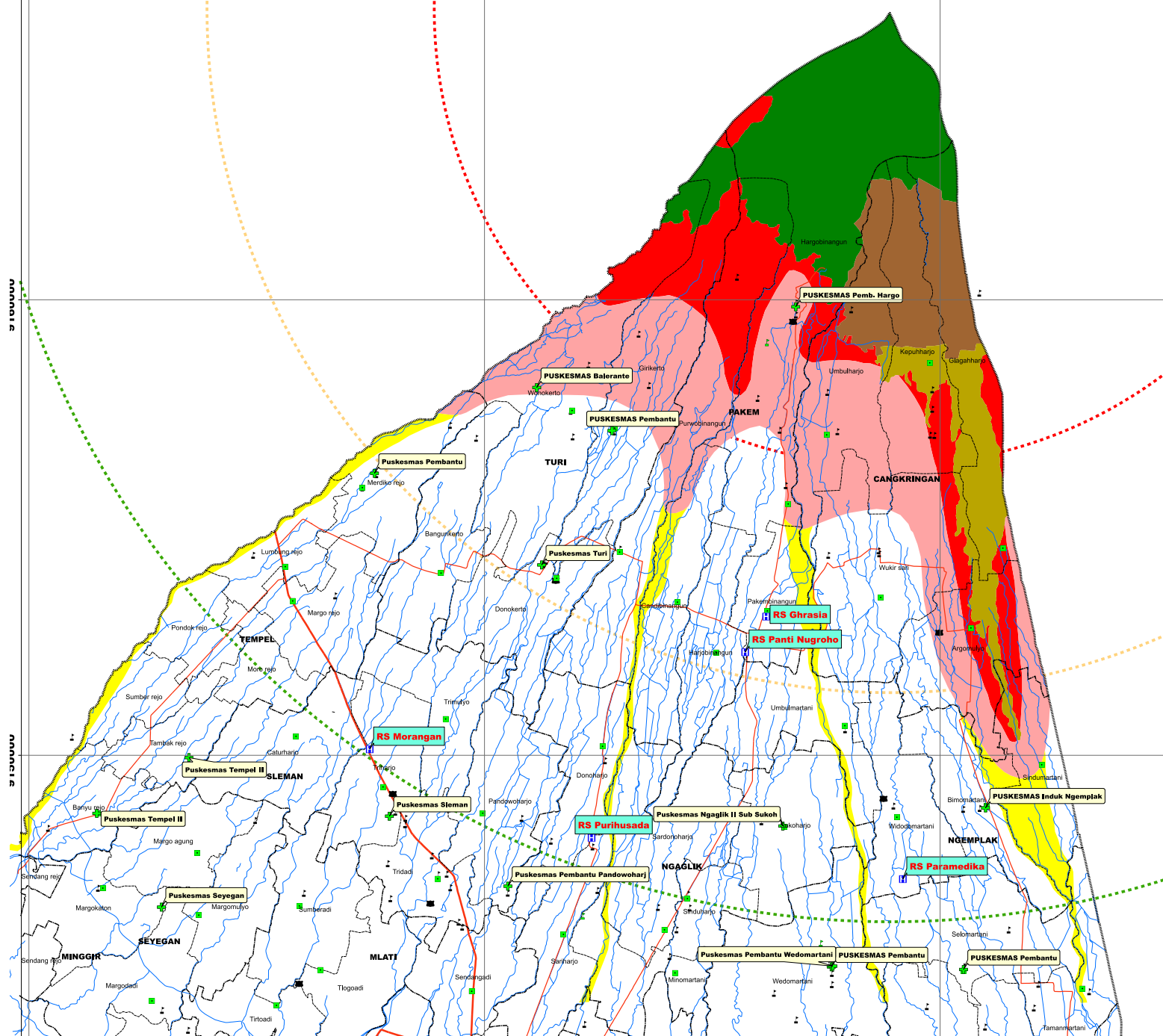
Topinka, USGS/CVO, 2001; basemap modified from: CIA map, 1997; volcanoes from: Simkin & Siebert, 1994



Mount Merapi

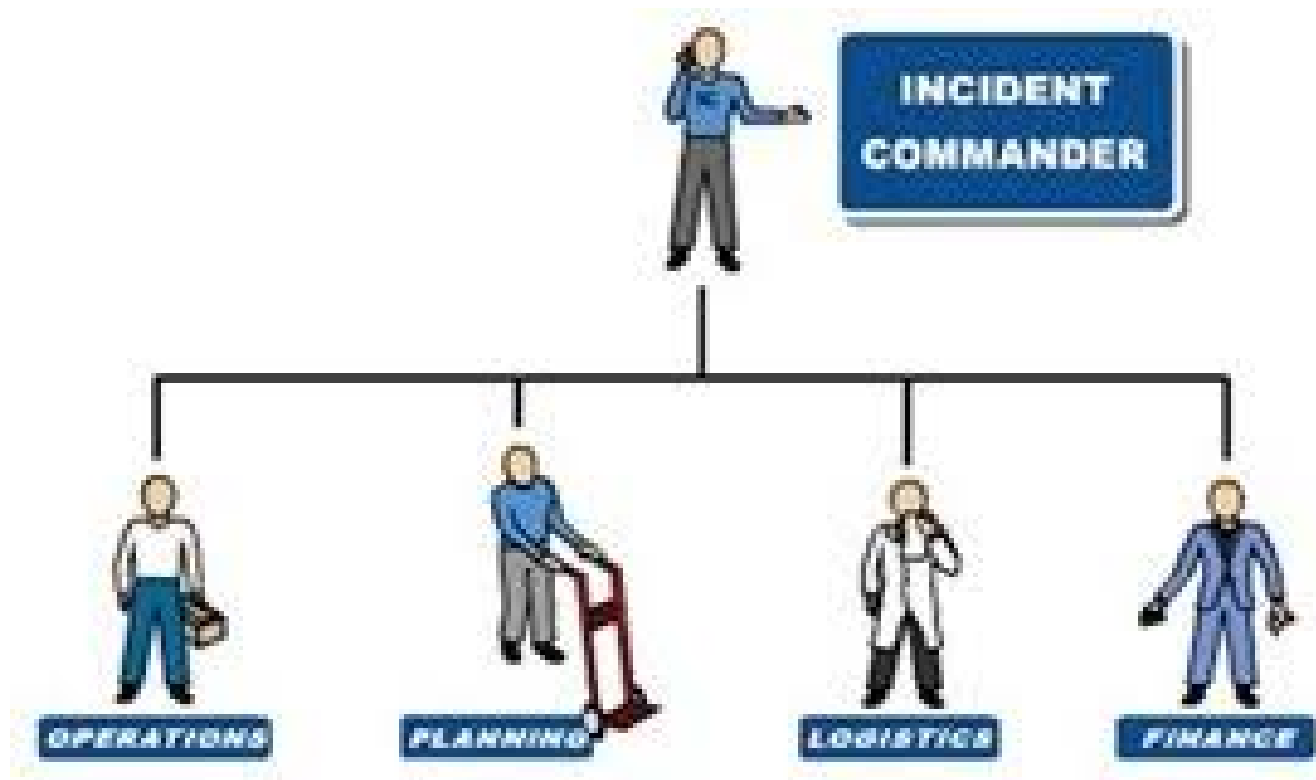
Preparedness

1. Draw a disaster mitigation map (based on the data you collect during the field trip) showing
 - Disaster risk zone (KRB I, II, III)
 - Population (Houses, total population & **vulnerable population**)
 - Public facilities (schools, hospital/ primary health care)
 - Early warning system
 - Evacuation route
 - Evacuation points / assembly point
 - Shelters



Preparedness

2. Plan a disaster response team



- Commander (1 student)
 - Receiving the latest update about Merapi's condition from BPPTK.
 - Spread information to the team and community.
 - Manage the team

- Operation section
 - Evacuating the victims
 - Triage and identifying vulnerable population and transporting victims to the shelters/Hospitals
 - Sheltering management including location, access, and field hospital.

- Planning section
 - Planning the needs including tents, public kitchen, basic human needs, water, and transportation based on the data collected from the shelters.

- Logistic section
 - Food
 - Fulfilling basic human needs (bathing, toilet, food) in evacuation place
 - Fulfilling the needs of vulnerable population.
 - Communication
 - Fulfilling the needs of communication including Handy Talkie, Internet connection, etc.
 - Medical
 - Medical support for the victims.
 - Epidemiologic survey about the potential infection disease and prevent the infection disease.

- Finance/ Admin section: -
- Social Support 'POPOKI'

- Logistic section

- Food

- Fulfilling basic human needs (bathing, toilet, food) in evacuation place
 - Fulfilling the needs of vulnerable population.

- Communication

- Fulfilling the needs of communication including Handy Talkie, Internet connection, etc.

- Medical

- Medical support for the victims.
 - Epidemiologic survey about the potential infection disease and prevent the infection disease.

- Finance/ Admin section: -

- Social Support 'POPOKI'

Response



Scenario I

- On the 19th of November 2018 at 10:05, Meteorological, Climatological, and Geophysical Agency declares the Merapi status as SIAGA (Level III). The residents within 10km should be evacuated.
- When you make plan, don't forget to think about:
 - School children and disabled people.
 - Elderly who don't want to be evacuated
 - Some residents who want to stay with Mbah Marijan (the Merapi caretaker), while he refuses to be evacuated.
- Please discuss with your team about how to inform the residents about the Merapi status and discuss how you will evacuate them!

Inject scenario I

- By 15th of December 2018, the residents within 10km around the peak of Merapi have been evacuated.
- Elderly and children seem to have no activities at the evacuation area. Mothers and fathers who usually do farming really want to do their daily activities as usual.
- Some people start to come back home for feeding the animals and take care of their treasures.

Inject scenario I

- On the 30th of December 2018 at 17:32, Meteorological, Climatological, and Geophysical Agency declares the Merapi status as AWAS (Level IV).
- a bigger eruption occurs. Meteorological, Climatological, and Geophysical Agency instructs the residents within 15km to be evacuated.
- Discuss with your team about how to inform the residents about the status of Merapi and discuss how to evacuate the residents!
- The Regional Agency for Disaster Countermeasure estimate 250 people went back to their home.
- What will you do for the residents who went back home while the condition is too risky for the helpers?

Scenario II

- On the 5th of January 2019 at 23:00, there are too many refugees at one point.
- The capacity of the evacuation center holds 70% of the evacuated people.
- Discuss with your team about what you will do to help the refugees and manage the evacuation place!

Inject scenario II

- On the 6th of January 2019 at 11:30, the public kitchen is being prepared. They have enough food now for 60% of the refugees and enough for the remaining 40% might arrive in five hours.
- The public toilets are insufficient and the refugees have to be in a long queue for that.
- How will you satisfy the refugees' needs?

Inject scenario II

- On the 10th of January 2018
 - Some residents get health problems (sore throat, outbreak of diarrhea, and mental health problems)
 - Children and elderly have nothing to do.
 - Adult people do not have a job.
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- Discuss with your team about what you can do to help the refugees!

RECOVERY

Scenario III

- Two years after the eruption, some of the residents have gone back home and some others can't go back home due to the damage of their houses.
- Meteorological, Climatological, and Geophysical Agency declares that Disaster Risk Area III is not allowed to be inhabited.
- The government through The Regional Agency for Disaster Countermeasure (BPBD) decides the emergency is over.
- Many refugees have moved into new houses and started a new life, but some suffer from trauma and others still have many problems.
- The recovery phase is nearing the end. What must you do to help the refugees solve their problems and achieve full recovery?

